

Reactive Solitary Eccrine Syringofibroadenoma: A Very Rare Adnexal Tumour of Skin

Anup Kumar Tiwary*, Firdous Jahan, Dharmendra Kumar Mishra, S.S. Chaudhary

Department of Dermatology, Venereology and Leprosy, Rajendra Institute of Medical Sciences, Ranchi, India

*Corresponding author: anup07tunnu07@gmail.com

Abstract Eccrine syringofibroadenoma (ESFA) is a very rare benign tumour of intraepidermal part (acrosyringium) of eccrine sweat duct. Based on the evidence of known aetiological factors, two forms have been proposed: reactive ESFA and non-reactive ESFA. Rarely, non-reactive forms have been seen to be associated with ectodermal dysplasia. Reactive type has been considered as hyperplastic or hamartomatous response to many inflammatory and neoplastic dermatoses. Owing to its clinical similarity with other chronic dermatoses like deep mycoses, squamous cell carcinoma, diabetic foot ulcer or leprous neuropathic ulcer, it may remain misdiagnosed. Distinctive histopathological features with or without immunostaining usually confirm the diagnosis. ESFA is a very rare entity as to the best of my knowledge, only around 50 cases have been reported all over the world till date. Herein we report a case of reactive solitary ESFA on the right foot in a 65 years old male.

Keywords: *acrosyringium, eccrine syringofibroadenoma, ectodermal dysplasia, hamartomatous*

Cite This Article: Anup Kumar Tiwary, Firdous Jahan, Dharmendra Kumar Mishra, and S.S. Chaudhary, "Reactive Solitary Eccrine Syringofibroadenoma: A Very Rare Adnexal Tumour of Skin." *American Journal of Medical Case Reports*, vol. 4, no. 2 (2016): 71-73. doi: 10.12691/ajmcr-4-2-10.

1. Introduction

ESFA is a very rare benign tumour of acrosyringial part of eccrine duct which was first described by Mascaro in 1963. It frequently involves distal extremities presenting as multiple, coalescing, firm, pinkish or skin coloured verrucous nodules of variable sizes in a "Streusel-bread" like appearance with ulceration. Currently, it is classified into five types: solitary, multiple ESFA associated with hidrotic ectodermal dysplasia (ED), multiple ESFA without other cutaneous involvement, non-familial unilateral linear ESFA and reactive ESFA. Clinical diagnosis is very difficult as some other chronic dermatoses closely simulate ESFA. Hence histopathologic examination is imperative to confirm the diagnosis.

2. Case Report

A 65 year old male presented with solitary, painful, non-healing ulcer on the right sole with multiple, pinkish, verrucous nodules on the lateral side of the ulcer involving right lateral malleolus and lateral border of right sole since last two years. Further probing to obtain the detailed history revealed that two years back, patient got a traumatic injury on his right sole for which he did not consult any registered medical practitioner and used some home made therapy for local application on the wound. Then, he underwent some surgical intervention to debride the wound by local, untrained, non-medical personnel without a proper antibiotic coverage. Over the time, it got complicated by secondary infections leading to

the profound non-healing ulceration. Within next 6 months period after developing fully formed ulcer, small multiple, pinkish nodular lesions appeared at the lateral margin of the ulcer which increased in size with time, coalesced with other nodular lesions and became verrucous.



Figure 1. Deep ulcer over the right sole (hyperkeratotic and macerated margin with clean floor)

With the scenario of absence of anaesthesia on the ulcerated lesion, normal blood sugar levels and absence of any cutaneous or neurological signs of leprosy, wrong surgical interventions were considered as the chief culprit of non-healing ulcer and deep mycoses & squamous cell carcinoma were kept as differential diagnoses for the pinkish verrucous nodular growth. On local cutaneous examination, a deep seated ulcer of 6 cm×4 cm×2 cm size was seen over the right sole whose floor was clean

(because patient came to our hospital after antiseptic dressing) and the margin was hyperkeratotic and slightly macerated. Along the lateral border and on the lateral malleolus of right foot, multiple coalescing, firm, pink coloured verrucous nodules of varying sizes (largest is 3 cm × 2.5 cm) were noted in a “Streusel-bread” like appearance (Figure no. 2). The size of whole multinodular lesion was 9 cm × 6 cm. There was no regional lymphadenopathy, No significant abnormalities were found in the examination of teeth, hair, nails and mucosa. There was no clinical or radiological evidence of osteomyelitis. The family history and past medical history were non contributory and systemic examinations and routine laboratory investigations were within normal limits.



Figure 2. Multiple, coalescing, firm, pinkish, verrucous nodules of varying sizes in a “Streusel-bread” like appearance

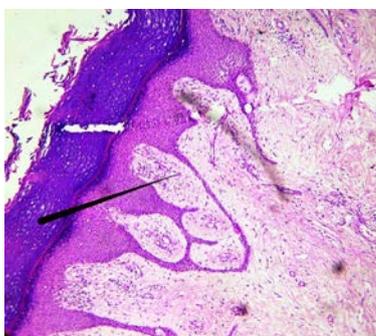


Figure 3. Vertically oriented proliferation of epidermis centered around acrosyringium (pointer), extending into the reticular dermis. (H & E, X20)

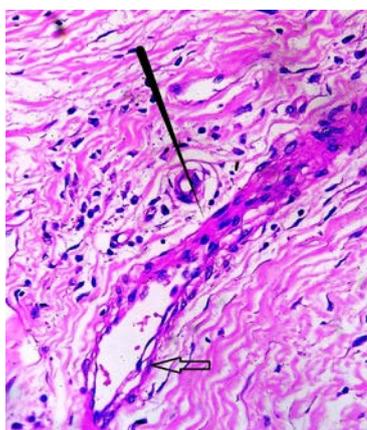


Figure 4. Thin, anastomosing, vertical strand consisting of cuboidal epithelial cells (arrow) (H & E, X40)

To avoid the misdiagnosis and come arrive at a final, accurate diagnosis, a wedge shaped incisional biopsy was done and sample was sent for histopathological evaluation which demonstrated vertically oriented, multiple, thin, anastomosing strands centered around acrosyringium (Figure 3) (Figure 4) forming a lattice of double layered acrosyringial ductal structures embedded in delicate fibrovascular stroma, extending into the reticular dermis (Figure 5).

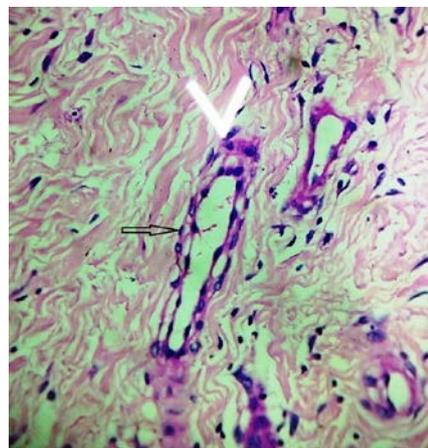


Figure 5. Formation of double layered (arrow) eccrine ducts embedded in fibrovascular stroma (H & E, X40)

On the basis of detailed history, clinical presentations and distinct histopathological features, diagnosis of ESFA was made and it was considered to be reactive in nature due to the traumatic non-healing ulcer. As patient did not give consent for the complete excision of the tumour and due to his financial constraints for the laser treatments, the lesion was left untreated and he was advised to follow up biannually to look and early diagnose malignant changes if any.

3. Discussion

ESFA is a rare, benign, cutaneous adnexal neoplasm with eccrine acrosyringial differentiation. To the best of my knowledge, less than 50 cases have been reported globally. It was first described by Mascaro in 1963 and later classified into four types by Starink which are: solitary, multiple ESFA associated with hidrotic ED like Schopf-Schulz-Passarge syndrome (eyelid cysts, hypotrichosis, hypodontia, nail hypoplasia) or Clouston syndrome (palmoplantar keratoderma, patchy alopecia and nail dystrophy), multiple ESFA without cutaneous findings and non-familial unilateral linear ESFA. [1,2,4] In 1997, fifth type was recognized as reactive ESFA by French as a ductal hyperplastic or hamartomatous growth, initiated by repeated damage to the eccrine ductal structures by chronic inflammatory or neoplastic dermatoses like diabetic foot ulcer, leprous neuropathy, venous stasis, chronic venous insufficiency, burn scar, bullous pemphigoid, epidermolysis bullosa, naevus sebaceous, ileostomy, palmoplantar erosive LP, trauma, chronic plaque type psoriasis, epitheloid haemangioendothelioma, and squamous cell carcinoma. [3,5,6] Reactive ESFA is usually solitary and commonly involve distal extremities and if multiple sites are involved, it is termed as ‘eccrine syringofibroadenomatosis’. Apart from the 5 mentioned

types, another clear cell variant was also reported by Hu et al. in 2005. [7]

Its exact pathogenesis is not yet completely understood but there must be some alteration in cellular growth and differentiation of epidermal and adnexal structures. Based on the few molecular studies, Wnt/ β -catenin signalling pathway has been claimed to play the central role whose loss of inhibition or over expression can lead to abnormal epidermal differentiation and proliferation. [8] Various cytokines like TGF- α , IL-23, IL-17, IL-1 α and VEGF have been implicated in inducing this signalling pathway but due to the lack of sufficient and strong evidence, its pathogenesis remains to be fully elucidated. Clinically, ESFA usually presents as asymptomatic, solitary or multiple, coalescing, firm, pink or flesh coloured verrucous nodules in a "Streusel-bread" like appearance with or without ulceration. Most commonly affected sites are sole, feet or lower leg. Other less common sites of predilection are face, back, abdomen, buttocks, palm, nails. It is more common in the patients of 60-70 years age group. The clinical differential diagnoses are tuberculosis verrucosa cutis, other atypical mycobacterial infections, deep mycotic infections and squamous cell carcinoma. Histopathological differential diagnoses will include eccrine poroma, acrosyringal nevus, syringofibroadenocarcinoma, fibroepithelial tumor of Pinkus (Variety of BCC), pseudoepitheliomatous hyperplasia, squamous cell carcinoma and reticulated seborrheic keratosis. In case of acrosyringal nevus, strong PAS positivity and plasma cell infiltrate are the distinguishing features, whereas eccrine poroma shows a more uniform small epithelial cell proliferation with vertical thick strands of cells extending into the dermis. In syringofibroadenocarcinoma, there is an area of transformation where a malignant phenotype emerges displaying cytological atypia. Fibroepithelial tumor of Pinkus shows focal changes typical of basal cell carcinoma with peripheral palisading and clefting artefact and loose fibrous stroma.

Histopathologically, ESFA is characterized by distinct diagnostic features which are seen as multiple, thin, anastomosing strands of cuboidal epithelial cells with ductal structures forming a lattice embedded in fibrovascular stroma and connected to the undersurface of epidermis extending to dermis.

On immunohistochemistry, ductal cells stain positively with S-100 and luminal surface stain with CEA and CK-19 but in the presence of scarring, CEA and CK-19 may be negative.

This disease generally pursues a complete benign course although malignant transformation to eccrine syringofibrocarcinoma has been reported in non-reactive ESFA. [9] In reactive ESFA, malignant change has not been reported yet. Moreover, spontaneous resolution can occur in reactive type. [10] Complete surgical excision is the treatment of choice but multiple lesions, large solitary lesion and close proximity to vital areas, are few major surgical contraindications leading to opt for other

treatment options including CO₂ laser ablation or radiotherapy. Owing to the risk of malignant transformation if any, regular follow up and close observations should always be done for partially treated or untreated lesions.

4. Conclusion

As there are many chronic non healing ulcerative conditions which can closely simulate the clinical picture of ESFA, diagnosis should always be based on the distinct histopathological findings and immunostaining if possible. In previously reported cases of reactive type of ESFA, neuropathic ulcer has been the most common underlying aetiology. Trauma complicated by the wrong surgical interventions is a rarely reported cause of reactive ESFA in the literature as in this case.

Acknowledgement

The authors sincerely thank Dr. Uday Khopkar for their contribution by giving valuable suggestion for the histopathological findings.

References

- [1] Mascaro JM. Considerations sur les tumeurs fibroepitheliales: Le syringofibroadenome eccrine. *Ann Dermatol Syphiligr* 1963;90: 1443-53.
- [2] Starink TM. Eccrine syringofibroadenoma: Multiple lesions representing a new cutaneous marker of the Schopf syndrome, and solitary nonhereditary tumors. *J Am Acad Dermatol* 1997; 36: 569-76.
- [3] French LE. Reactive eccrine syringofibroadenoma: An emerging subtype. *Dermatology* 1997; 195:309-10.
- [4] Singh N, Chandrashekar L, Shakthi P, Thappa DM, Badhe BA, Sylvia MT. Reactive eccrine syringofibroadenomatosis presenting as bilateral plantar hyperkeratosis. *Indian J Dermatol* 2015; 60:403-5.
- [5] Utani A, Yabunami H, Kakuta T, Endo H, Shinkai H. Reactive eccrine syringofibroadenoma: An association with chronic foot ulcer in a patient with diabetes mellitus. *J Am Acad Dermatol* 1999; 41: 650-1.
- [6] Heng YK, Pan JY, Tan SH, Tey HL. Eccrine syringofibroadenomatosis of the reactive subtype occurring in chronic poorly-controlled psoriasis. *Indian J Dermatol Venereol Leprol* 2014;80:534-6.
- [7] Hu S, Bakshandeh H, Kerdel FA, Rongioletti F, Romanelli P. Eccrine syringofibroadenoma of clear cell variant: An immunohistochemical study. *Am J Dermatol* 2005; 27:228-31.
- [8] Luo J, Chen J, Deng ZL, Luo X, Song WX, Sharff KA, et al. Wnt signaling and human diseases: What are the therapeutic implications? *Lab Invest* 2007; 87:97-103.
- [9] Bjarke T, Ternesten-Bratel A, Hedblad M, Rausing A. Carcinoma and eccrine syringofibroadenoma: A report of five cases. *J Cutan Pathol* 2003; 30:382-92.
- [10] Tey HL. Characterizing the nature of eccrine syringofibroadenoma: Illustration with a case showing spontaneous involution *Clin Exp Dermatol* 2009;34: e66-8.